REMARKS

The Examiner has disapproved of the proposed drawing corrections to figure 6 under 37 CFR 1.121(a)(6). The Applicants propose amending the figure to show three zoom buffers, instead of a zoom buffer, a zoom front buffer, and a zoom back buffer. Since the Examiner accepts the Applicants' arguments from page 2 of the response submitted on December 2, 2002, that it is clear to a person skilled in the art reading the specification that the three buffers cited at page 11, line 6 are three zoom buffers storing images generated by the 3D drawing engine 60, then it can be understood that having three zoom buffers in figure 6 does not constitute introducing new matter into the disclosure of the invention.

The Examiner has objected to the specification for the lack of a description for figure 4. The Applicants have amended the disclosure at page 10, line 13 to properly reflect which figure is being described. Figure 4 is being described in the following paragraph:

> Figure 4 shows a representation of the hardware in an embodiment using 3D drawing engine 60 and two zoom buffers. The area selected in the main display buffer in memory 50 is scaled and written into the zoom buffer by the 3D drawing engine 60. Figure 4 illustrates double buffering so two zoom buffers have been shown. In this case, the drawing engine 60 alternates between the two buffers. Meanwhile CRTC2 12 reads from the buffer that the drawing engine 60 has finished writing and while the drawing engine 60 is updating the other buffer. This is done to prevent unnecessary flickering that may occur with single buffering and to ensure that the drawing engine has completely updated the zoom buffer from which the CRTC2 12 is reading.

This is supported by the brief description of the drawings where it is stated that:

> Fig. 4 is a high level block diagram illustrating the display controller system according to the second preferred embodiment in which the zoomed display toggles between two buffers and a zoomed hardware cursor is provided and the scaling is performed using a 3D drawing engine;

Figure 4 clearly shows the 3D drawing engine 60 and the two zoom buffers. Two zoom buffers are also illustrated in figure 4 and CRTC2 12 reads from the buffer that the drawing engine 60 has finished writing. Figure 5 is described in the following paragraph at page 10, line 24:

> It will be appreciated that the hardware cursor which is overlaid on top of the main display may also need to be scaled so that is can be seen on the secondary display. Alternatively, the hardware cursor can simply be BLIT (bit block transferred or copied) into the zoom buffer directly (see Figure 5).

The brief description of the drawings describes figure 5 as follows:

> Fig. 5 is a high level block diagram illustrating the display controller system according to the third preferred embodiment in which the zoomed display toggles between two buffers and the main hardware cursor is blit directly onto the zoom buffers;

From the figures, it can be seen that the difference between figures 4 and 5 is that figure 4 comprises memory space for a zoomed hardware cursor and figure 5 does not, having the main hardware cursor blit directly onto the zoom buffers. Therefore, the amendment introduced above properly describes figure 4 and no new subject matter has been introduced into the disclosure. The Applicants' originally thought that an error in the figure numbering occurred in the description of the figures starting from figure 5 and extending to figure 8 but has now realized that the error also included figure 4. This error has now been corrected.

The Examiner objects to the definition of a "non-integer fraction" in the disclosure at page 3, lines 10-13 as not being accurate. The Applicants state at page 3, line 10 that

> By a non-integer fraction is meant a fraction which is not 1/n, where n is an integer, and thus a 1:n scaling is not possible.

The Applicants believe that it can be understood that all fractions are to be reduced to the form 1/n and in the case that n is not an integer when in that form, the fraction is considered "non-integer". Therefore, 10/41 is considered a non-integer fraction, as per the Applicants' definition, since when reduced to the 1/n form, the n corresponds to 4.1 and this term in not an integer. The 1/n form is required to determine whether the fraction is a non-integer fraction and the Applicants believe this to be understood from the statement at page 3, line 10.

The Applicants have amended the specification at page 8, line 10 to correct the word "resolutions" to "resolution".

The Examiner has rejected part of the amendment to the paragraph on page 7, line 28 submitted on June 27, 2002. The Applicants have amended the paragraph to remove the sentence describing the detection of the hotkey (step 100') to determine if the zoom operation should be disabled (step 113). Applicants believe this subject matter is considered new subject matter by the Examiner because of the sequence of events illustrated by the flowchart in figure 2. Steps 100' and 113 follow steps 111 and 112 and this was unclear from the context into which the sentence had been introduced. Therefore, the sentence has now been placed in the paragraph on page 11, line 12, in order to illustrate the originally presented flowchart accordingly.

The Examiner has rejected the amendments at page 11, line 12 filed June 27, 2002 and October 28, 2002 as introducing new subject matter. The amendments combined together are as follows:

> Once the use of filtering or no-filtering is decided (step 110), the 3D drawing engine is used to provide filtering (step 111), or the 3D drawing engine is used to provide scaling without filtering (step 112). Alternatively to using the 3D drawing engine 60, the backend scaler of CRTC2 12 can also be used to scale the zoomed window (see Figure 78). The CRTC2 12 is set to read from the location where the zoom window is located and the scaler is programmed to scale using the determined scale factor. The zoom window can be fetched directly from the main display buffer or the zoom window can be copied (blit) into another region in memory and the CRTC2 (12) can read from there (see Figure 8). In this case, the control of filtering and non-filtering, will depend on the filtering capabilities of the specific scaling unit used.

The Applicants have further amended the paragraph above to include the language present in the flowchart of figure 2. Figure 2, as originally filed, includes the steps of "enabling filtering", "scale selected region using the 3D drawing Engine texture mapper into the appropriate zoom buffer using filtering for each pixel", and "scale selected region using the 3D Drawing Engine texture mapper into the appropriate zoom buffer without any filtering". According to Section 2163.06 of the MPEP, "information contained in any one of the specification, claims or drawings of the application as filed may be added to any other part of the application without introducing new matter". Since the subject matter was already in the figures as originally filed, Applicants strongly believe

no new subject matter was entered into the disclosure of the invention as a result of this amendment.

The Examiner has rejected the amendment at page 4, line 13 filed December 2, 2002 as introducing new subject matter. The amendment to the paragraph is as follows:

> The location of the selected zoom area once defined can be static in order to fix the zoom window on one region of the display or locked to the movement of any user input through an input device (keyboard, absolute or relative pointing device, e.g. mouse). This user input may further includes a cursor control device input used to control a cursor, and the portion of the main surface memory to be scaled and output is caused to be dragged or moved over the main surface memory by movement of the cursor.

The original claim 5 of the disclosure reads as follows:

> 5. The method as claimed in claim 1, wherein said user input further includes a cursor control device input used to control a cursor, and said portion is caused to be dragged or moved over said main surface memory by movement of said cursor.

When taken in conjunction with claim 1 to account for the terms "the main surface memory to be scaled and output" as a replacement for "said portion", the amendment of page 4, line 13 is word for word from the original specification and therefore cannot constitute new subject matter. The exact wording was present in the specification as a whole as originally filed and therefore can be used as support for the amendment. Therefore, the Applicants respectfully submit that the amendment complies with 35 USC 132 and requests the amendment be entered.

The Examiner has objected to claims 13 and 28 because of informalities. The informalities have been corrected.

The Examiner has rejected claims 5 and 25 under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains to make and/or use the invention. In view of the arguments provided above for the subject matter entered at page 4, line 13, and taken in conjunction with the arguments filed 12/02/02, the Applicants believe there

is now support for claims 5 and 25 in the specification and this rejection has been overcome.

The Examiner has rejected claims 1-33 under 35 U.S.C. 112, first paragraph. More specifically, the Examiner objects to the amendment to claims 1, 2, 5, 12, 13, 17, 21, 22, and 24 which changed the originally presented "a display controller system having a main surface memory of the frame buffer" to "a display controller system having a main surface of the frame buffer". The Applicants have further amended the claims to "a display controller system having a main surface memory in the frame buffer". As pointed out by the Examiner, the originally filed specification described at page 3 line 16 "a display controller surface having a main surface memory" and described at page 6, lines 25-27 "fetching one or more display surfaces from a frame buffer memory". The Applicants believe that the new claim language is fully supported by the original disclosure and now clearly indicates that the main surface is required to be in the frame buffer, as was described in the originally filed specification.

The Examiner has rejected claim 5, and 5-20 under 35 U.S.C. 112, second paragraph. Claim 1 has been amended by removing the term "fixed position" to remove the indefiniteness of claim 5. It should be understood that claim 1 refers to a portion of the main surface that is selected and claim 5 refers to dragging the selected portion over the main surface. Claims 15 and19 have been amended to remove the term "display" from "main display surface" in order to have proper antecedent basis in the claims.

The Examiner has rejected claims 1-4, 6, 7, 9-24, and 26-33 under 35 U.S.C. 102(b) as being anticipated by Ranganathan, US Patent No. 5, 764,201. The Applicants believe the rejection no longer applies in view of the amendments made to claims 1, 2, 5, 12, 13, 17, 21, 22, and 24.

The Applicant describes a main surface in the frame buffer memory to be a portion of the entire frame buffer memory. Page 6, lines 24 to 26 of the original specification states:

> "Figure 1 shows a high level block diagram of the preferred embodiment. Two CRTC's 11 and 12 **are capable of fetching one or more display surfaces from a single frame buffer memory** (50) which can be SGRAM, SDRAM, or any other type of Random Access Memory (RAM). Each CRTC may also contain one or more backend scalers 14 (refer to Figure 2) that allows the input surfaces to be re-scaled. While, within the context of the present invention, each controller 11 and 12 does not need to access more than one surface, greater image processing and display ability may be provided **when multiple surfaces can be accessed by each controller.**" (emphasis added)

This indicates that the main surface is only one of many surfaces available within the frame buffer memory. Furthermore, outputting the main surface to a display is to be understood as outputting a portion of the frame buffer memory, not a portion of the main surface. A portion of the main surface is only output to a display in a zoom context. That is, to perform the zoom function, a portion of the main surface is selected and output to the display. However, in order for the user to select which portion of the main surface is to be zoomed, the entire main surface is first output to the display. As is described in claim 12, there is an embodiment where the display controller system comprises a single display output, and the user input causes a single display device to switch between displaying the portion and displaying essentially all of the main surface of the frame buffer memory. Claim 13 describes an alternative embodiment, wherein the display controller system comprises at least two display outputs, a first one of which displays essentially all of the main surface in the frame buffer memory, and a second one of which displays the scaled portion in a full screen view. The portion that is zoomed is a portion taken from the main surface.

As the Examiner points out, Ranganathan states that the movie, which is to be scaled (zoomed) is stored in a separate portion of the graphics memory at column 12, lines 18-19. Applicant describes scaling a portion of the main surface, not *another* surface from the memory. Ranganathan does not teach selecting a portion of the main surface, but selecting a different portion of the memory.

The Examiner has rejected claim 8 under 35 U.S.C 103(a) as being unpatentable over Ranganathan. The Applicant believes this rejection has been overcome in view of the amendments presented above.

In view of the foregoing, a Notice of Allowance for claims 1-33 is respectfully requested.

Respectfully submitted,
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